

REMARKS

Reconsideration of this application is respectfully requested.

In response to the Examiner's caution about the need for submitting a listing of prior art references separate from the specification, the undersigned has double-checked the IDS Form PTO-1449 submitted July 20, 2004 and discovered that it does separately list all references cited in the specification except for Japanese unexamined patent publication 2001-039766—which, of course, has already been discussed in the paragraph bridging pages 4 and 5 of the specification which the Examiner indicates has been considered. In addition, the undersigned attaches a supplemental Form PTO-1449 listing this Japanese reference and two U.S. patents which the undersigned believes to be in the same patent family and in the English language. The IDS fee for this stage of prosecution is also attached and the Examiner is respectfully requested to consider this newly submitted material and to return a fully initialed and signed copy of the Form PTO-1449 to make such consideration officially of record.

With respect to the Chinese office action submitted in the IDS of December 21, 2005, the attached supplemental IDS materials now include reference to U.S. Patent No. 6,093,339 and an attached English abstract of JP-A-11-228225 and JP-A-11-228227 which are believed to correspond to Chinese document 1226541. Consideration of this supplemental material is also respectfully requested.

In response to the Examiner's objection, page 9 of the specification has been amended so as to avoid reference to "claim 1".

In response to the Examiner's questions about the adequacy of disclosure regarding thermoelectric or ion-conducting properties (e.g., at page 78, lines 9-18) and the rejection of

claims 18 and 19 directed to these features under the first paragraph of 35 U.S.C. § 112, these claims have been cancelled thus mooting such objections and rejection.

With respect to the questioned antecedent basis in the specification for ranges recited in original claims 10 and 12, these claims have been amended so as to now recite a range that is explicitly taught in the original specification, thus mooting this ground of objection.

Although the original specification is believed to provide sufficient antecedent basis for the subject matter of claims 13, 16 and 17, following the Examiner's suggestion, page 16 has now been amended so as to provide a concentrated antecedent basis directly in the specification at a specific point that can be more easily identified.

In response to the rejection of claims 2 and 13-15 under 35 U.S.C. § 112, second paragraph, these claims have been amended so as to obviate the Examiner's stated grounds of objection.

Accordingly, all outstanding formal issues are now believed to have been resolved in the applicants' favor.

The rejection of claims 14 and 15 under 35 U.S.C. § 102 as allegedly anticipated by either U.S. 2003/0008762 A1 or U.S. 6,692,652 B2, both naming Messrs. Takao, Saito and Tani as joint inventors (two of which are also named as joint inventors in the present application) is respectfully traversed.

The Examiner alleges that Examples 6-11 of these references anticipate the process now being claimed at claims 14-15 – apparently because those examples also generally teach production of a crystal oriented ceramic that involves mixing/molding/heat treatment. The Examiner alleges that Examples 6-11 of these references produce a ceramic with a particular formula – that the Examiner apparently alleges to fall within the formula of applicants' claim 1.

However, even the formula stated by the Examiner (which the undersigned has been unable to find in Examples 6-11 of the references) does not fall within the formula of applicants' claim 1.

It is believed that this ground of rejection is probably caused by the Examiner's misinterpretation of claims 14-15 (e.g., see the alleged indefiniteness of the claims as originally written in regard to the rejection under 35 U.S.C. § 112, second paragraph noted above). As now amended so as to overcome the alleged indefiniteness, it should be clear that the method recited in claims 14-15 must produce a crystal oriented ceramic as in claim 1. Accordingly, claims 14-15 are clearly not anticipated by the cited documents.

The rejection of claims 1-13 and 16-19 based upon either of the above-identified '762 and '652 documents is also respectfully traversed.

The Examiner asserts that a certain broad formula is taught in these references – a formula so broad that it allegedly “encompasses and thus suggests the claimed formula”.

First of all, the formula stated by the Examiner does not even allow for the presence of lithium – a presence which is permitted by the formula of claim 1. Secondly, the stated ranges for other elements in the formula of applicants' invention are very much narrower than ranges associated with the formula stated by the Examiner. The undersigned can find no teaching or suggestion in the cited references of applicants' claimed formula. Even if it is assumed *arguendo* that the prior art teaches a generic formula encompassing extremely large numbers of species, that does not make each of the encompassed species “obvious” to those of only ordinary skill in the art under the provisions of 35 U.S.C. § 103.

The generic inclusion of all words in the English language in a dictionary does not make all permutations and combinations of such words “obvious”. The prior known existence of all 88 keys on a piano do not make “obvious” all possible musical compositions or “species” of key

sequences. Indeed, the periodic table of available chemical elements has long been known and yet selected combinations and permutations of such elements continue to provide new non-obvious chemical compositions having new and non-obvious properties.

Here, as described in the specification, the present applicant has described novel species that provide unexpected and non-obvious superior characteristics (e.g. superior piezoelectric characteristics). Neither the enhanced characteristics nor the particular species of chemical formula now being claimed are in any way taught or suggested by the cited references – even if it is assumed *arguendo* that the cited references teach a formula that might, with some choices of specificity within wide parameter ranges, overlap in some sense with applicants' claimed formula. The approximately forty year old case law cited by the Examiner deals with specific fact situations not here present. As the Examiner is no doubt aware, there are also cases which find under fact situations more analogous to that presently at hand that mere overlap with a prior art formula does not suggest or make obvious all “overlapping” species. Indeed, the USPTO itself routinely makes restriction requirements between patentably distinct species of inventions which may include generic claims in one group.

The Examiner's assertion that the prior art teaches how one could modify similar materials to have thermoelectric or ion-conducting properties is noted. Although this is now mooted by the cancellation of claims 18-19, it is noted that such is inherently inconsistent with the earlier rejection made under the first paragraph of section 112 where the Examiner was, in effect, alleging that techniques for achieving such properties were not within the expected skill of the art.

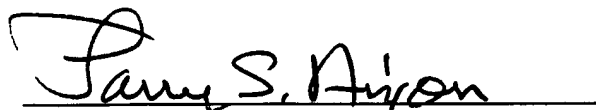
NONOYAMA et al
Appl. No. 10/800,020
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Accordingly, this entire application is now believed to be in allowable condition and a formal notice to that effect is respectfully solicited.

Respectfully submitted,

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